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ABSTRACT

A program to help parents understand their child s developmental level was evaluated with 13 handicapped infants and their mothers. The intervention sought to increase parents' overall understanding of child development, improve their observational skills, and help them adjust their interactions by taking cues from the child's responses. Mental age and developmental quotients were computed for all children based on both child performance and parent reports for both Bayley mental and motor scales. Parental predictions of their child's performance on individual Bayley items were calculated and used as a measure of the inaccuracy of parental perceptions. A significant, negative relationship was found between parental inaccuracy and the child's developmental gain for the mental scale. Findings suggested that children of parents who are accurate in their perception of their child's developmental level show faster progress on developmental tasks than other children. (CL)

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MODIFYING PARENTS' PERCEPTIONS OF THEIR CHILD'S DEVELOPMENTAL PROGRESS: AN APPROACH TO CREATING OPTIMAL LEARNING ENVIRONMENTS

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Recent research on learning in the home environment has focussed on "the problem of the match" between child performance and maternal expectations. In a study of non-handicapped 4 year old children and their mothers, Hunt and Paraskevopolous (1980) found a significant, negative correlation between the inaccuracy of mothers' knowledge of their child's abilities and the child's overall developmental performance. One hypothesis that has been raised to account for these findings is that mothers who know their child's abilities are more likely to provide a maximum of "daily teachable moments" than are parents who underestimate or overestimate their child's skills. These findings suggest a theoretical framework for programs serving young handicapped children and their families: by sensitizing them to their child's developmental competencies, parents will be able to provide more frequent and more appropriate learning opportunities for their child.

Hypotheses are that:

1. Parents' ability to accurately describe their child's developmental performance improves as they become sensitized to their child's areas of developmental competence.

2. There is a positive relationship between parental "accuracy" and developmental gains by the child.

Subjects: The present study focusses on 13 handicapped infants and their mothers enrolled in a home-based intervention program through the New Family Project at Skidmore College. Ten of these children had diagnosed developmental handicaps (eg. Down Syndrome, Spina bifida); three children had developmental delays of unknown etiology. Ages ranged from 4 to 28 months (mean age = 16 months). There were 7 girls and 6 boys.

Measures: The Bayley Scales of Infant Development were administered by a psychologist at the beginning of this program and again 3½ months later. At the same time the Bayley Scales were administered, the home teacher interviewed the mother in another room. The interview consisted of asking the mother to predict her child's performance on individual Bayley items. The HOME Scale (cf. Bradley & Caldwell, 1979), a measure of stimulation within the home environment, was also administered at the same time.

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Program Intervention:

Intervention is focussed primarily on the parent-child match. Facilitating the interaction between parent and child is accomplished by structuring the intervention around three major objectives.

The first objective is to develop the parents' overall understanding of child development. In order to help parents view their child's skills in a developmental context, a comprehensive list of six month objectives is designed. This approach provides parents with a realistic global projection of their child's performance over a 6 month period. It enables parents to better understand the developmental value of small, seemingly "insignificant" behaviors in that these skills represent necessary building blocks to developmental milestones such as walking or speech.

The second objective is to develop parents' observational skills. Parents are trained to observe how their child approaches a toy, what skills the child is demonstrating in performing the task and what skills the child is lacking before he can become efficient at the task.

Thirdly, we teach parents how to adjust their interactions with the child by taking cues from the child's responses. Specifically, parents learn how to adapt a toy to best challenge the child's developmental needs. In addition they learn how to apply principles of reinforcement and prompting to optimize the learning experience for their child.

Results and Conclusions

Hypothesis 1: Parents' ability to describe their child's developmental performance improves as they become sensitized to their child's areas of developmental competence.

Mental age and developmental quotients were computed for all children based on both child performance and parent reports for both Mental and Motor Scales. Although correlations between parent report and actual child performance on the Bayley Mental Scale were significant at Time 1 for mental age scores, the magnitude of this relationship was significantly greater at Time 2. (Table 1.)

No such relationship was found between parent report and child performance on the Bayley Motor Scale. Strong relationships were found between parent report and child performance at Time 1. ($r=+.9835$). These Time 1 correlations were significantly higher than those reported for the Bayley Mental Scale and did not change from Time 1 to Time 2.

No relationships were found between child performance, parent report and HOME score.

Hypothesis 2: There is a positive relationship between parental "accuracy" and developmental gains by the child.

Overall errors in parents' predictions of their child's performance on individual Bayley items were calculated for each parent-child pair (Table 2), and used as a measure of the "inaccuracy" of parental perceptions. The number of additional items that the child passed on the second administration of the Bayley, which had been failed at its initial administration, were used as a measure of overall progress or developmental gain.

Correlations between parental inaccuracies at Time 2 (following program intervention) and overall developmental progress made by the child were calculated for both Bayley Mental and Motor Scale performance for all children. (Table 4 and Figure 1). A significant, negative relationship was found between parental inaccuracy and the child's developmental gain for the Bayley Mental Scale. As Hunt and Paraskevopolous (1980) had reported, the strength of this relationship was due, primarily, to parental overestimations.

No relationships were found between HOME score, developmental gain or parental 'inaccuracy'.

These findings, although preliminary and based on a relatively small sample of children, are consistent with those of Hunt and Paraskevopolous (1980). They suggest that parents who are accurate in their perceptions of their child's developmental skills have children who progress on developmental tasks at a faster rate than other children. They also suggest that it is possible to enhance parents' ability to accurately describe their child's developmental skills and that, perhaps, parents use this ability to provide appropriate learning opportunities for their child throughout the day.

References

Bradley, R. & Caldwell, B. "Home Observation for Measurement of the Environment: A revision of the preschool scale." American Journal of Mental Deficiency, 1979, 84, 235-244.

Hunt, J. M^{c}V. & Paraskevopolous, J. "Children's Psychological Development as a Function of the Inaccuracy of their Mothers' Knowledge of their Abilities." The Journal of Genetic Psychology, 1980, 136, 285-298.

Measure	Time 1	Time 2
Bayley Mental Scale - (Mental Age Score)	r=+.7795*[a] N=13	r=+.9885*[a] N=13
Bayley Motor Scale - (Mental Age Score)	r=+.9835* N=13	r=+.9913* N=13

Table 1.

Relationship between parent prediction and child performance for two administrations of Bayley Mental and Motor Scales

*$p < .01$

[a]difference between Time 1 and Time 2 correlations significant, $p < .01$

Bayley Mental Scale	Time 1	Time 2
total# parental errors (N=13)	10.7	10.1
# overestimates (N=13)	8.1	5.9
# underestimates (N=13)	2.6	4.2

Parental "inaccuracies" in predicting child performance between 1st and 2nd administrations of Bayley Scales

Bayley Motor Scale		
total# parental errors (N=9) Motor Scale	4.3	2.8
# overestimates (N=9) Motor Scale	2.7	1.8
# underestimates (N=9) Motor Scale	1.6	1.0

Table 2.

Parental "inaccuracies" in predicting child performance between 1st and 2nd administrations of Bayley Scales

*differences between parental inaccuracies on Mental and Motor Scales are all significant, $p < .01$

	Mean	N	Correlation	Significance Level
Mental Age of Child	11.46	13	-.508	.08
# items gained - Bayley Mental Scale	18.69			
Mental Age of Child	11.46	13	+.026	.93
# items gained - Bayley Motor Scale	12.31			

Table 3.

Relationship between child age and developmental gain on Bayley Scales

	Developmental Gain
Mental Scale - parent report	mean gain = 18.7 points
Total# inaccuracies (Time 2)	r=-.62 +
Overestimates	r=-.54 *
Underestimates	r=-.07
Motor Scale - parent report	mean gain = 12.3 points
Total# inaccuracies (Time 2)	r=+.32
Overestimates	r=+.40
Underestimates	r=-.08

Table 4.

Correlations between parental inaccuracies in reporting child performance and developmental gains of child

+p=.02
*p=.05

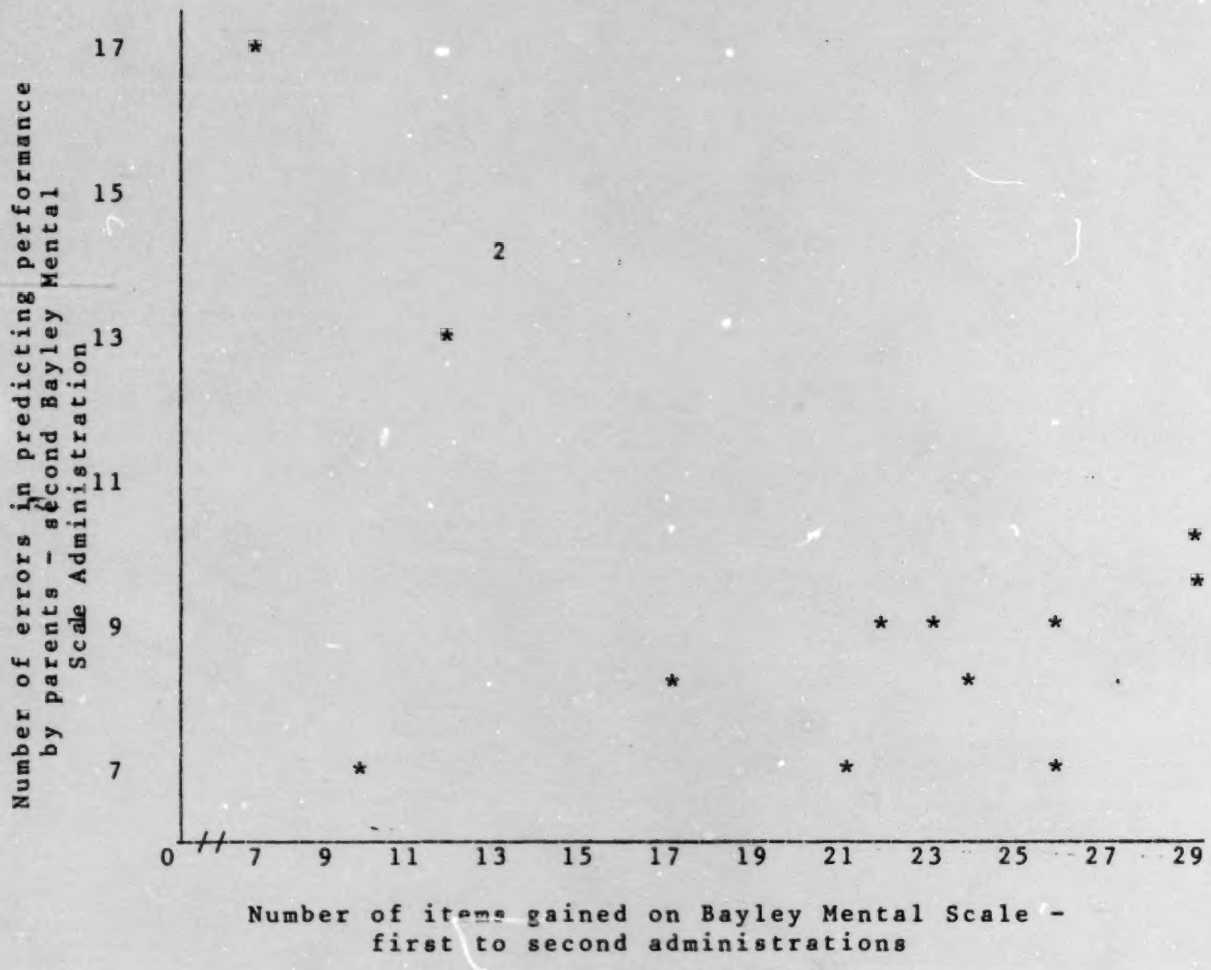

Figure 1.

Relationship in parental inaccuracy

in predicting child's performance

and child's actual performance on Bayley Mental Scale